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10/622,979	07/17/2003	In-Shan Sir	B-5161 621097-0	2999

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EXAMINER

FAISON, VERONICA F

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/622,979

Applicant(s)

SIR ET AL.

Examiner

Veronica F. Faison

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7-17-03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

The disclosure is objected to because of the following informalities:

On page 6, line 19, it appears that the sentence beginning with "Surfactants suitable for use..." should be the beginning of a new paragraph.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-19, and 21-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Koitabashi et al (US Patent 6,387,168).

Koitabashi et al an ink composition comprising a first pigment, a second pigment and a dispersant, both of the pigments being dispersed in an aqueous medium, wherein the first pigment is a self-dispersing pigment (macromolecular chromophores (MMCs)) having an anionic group or a cationic group, the group being bonded directly or through an atomic group to a surface of the pigment (abstract and col. 2 lines 55-62). The reference further teaches that the ink has printing properties such as dot diameter is great, optical density (OD) is high, rub-off resistance is good and the roundness of the

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dot is good (col. 5 lines 14-16). The self-dispersing pigment may be carbon black having anionic groups such as  $-\text{COOM}$  (carboxylate),  $-\text{SO}_3\text{M}$  (sulfonate),  $-\text{PO}_3\text{HM}$  and  $-\text{PO}_3\text{M}_2$ , wherein M is hydrogen, alkali metal, ammonium or organic ammonium bonded to the surface (col. 7 lines 23-51). The particle size of the self-dispersing pigment is in the range of 0.05 to 0.3  $\mu\text{m}$  (col. 9 lines 30-35). The second pigment may also be a carbon black (col. 9 lines 37-49). The amount of the first and second pigment is preferably within a range of 0.1 to 15 percent by weight and a ratio of the first pigment to the second pigment is preferably within a range of from 5/95 to 97/3 (col. 10 lines 5-13). The aqueous medium comprises water and a water-soluble organic solvent, wherein the organic solvents may be used alone or in any combination (col. 11 lines 30-59). The reference discloses that the  $K_a$  value is determined according to the kind and amount of a surfactant added (col. 12 lines 30-45). The ink composition may be applied to a printing medium by means of a publicly known ink applying means to form an image which would include ink jet printing (col. 14 lines 6-17). See example 1, wherein the pigment dispersion 1 would be the self-dispersing pigment (MMC) and pigment dispersion 4 would be the carbon black dispersion, glycerol would be the humectant, diethylene glycol would be the organic solvent, Acetylenol EH would be the surfactant as claimed by Applicant in claims 1, 8, 9, 10-13. The ratio of the pigment dispersion 1 to pigment dispersion 4 is in a 1:1 ratio which encompasses the claimed range set forth in claims 2, 3, 18 and 19. The composition as taught by Koitabashi et al appears to anticipate the claimed invention.

The definition of glycerol in the Hawley's Condensed Chemical Dictionary is cited to show that one of the uses of glycerol is as a humectant.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 4 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koitabashi et al (US Patent 6,387,168) as applied to claims 1-3, 5-19, and 21-28 above, and further in view of Nakano et al (US Patent 6,676,736).

Koitabashi et al is described above, fails to teach the particle size of the pigment dispersion.

Nakano et al teaches a water-based ink composition comprising an aqueous medium, at least one colorant selected from the group consisting of (i) polymer particles comprising a dye or pigment and a water-insoluble polymer, and (ii) a self-dispersible pigment and a specific compound (abstract and col. 1 lines 60+). The aqueous dispersion comprises the water-insoluble polymer particles comprising a hydrophobic dye or pigment (col. 6 lines 1-4). The reference further teaches that the particle diameter is in the range of 0.01 to 0.5  $\mu\text{m}$  for the dispersion stability (col. 11 lines 31-34). Therefore it would have been obvious to one of ordinary skill in the art have a pigment particle size as disclosed in Nakano et al in the composition of Koitabashi et al to promote dispersion stability.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Veronica F. Faison whose telephone number is 571-272-1366. The examiner can normally be reached on Monday-Thursday and alternate Fridays 8 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on 571-272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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